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Endocrine Disruptor Banned From Soap Still Found in Hand-Sanitizers, Toothpastes and Mouthwashes

Research shows triclosan is a potent endocrine disruptor that interferes with thyroid function. Endocrine-disrupting chemicals can promote a variety of health problems, including obesity, breast, ovarian, prostate and testicular cancer, preterm and low birth weight babies, precocious puberty in girls and undescended testicles in boys.

By Dr. Joseph Mercola

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Story at a glance:

- Routinely disinfecting your body and surroundings may actually cause more harm than good in the long run. Not only do they promote the development of drug-resistant bacteria, but antibacterial compounds such as triclosan and quaternary ammonium compounds (QACs or "quats") have also been linked to a number of harmful health effects.
- Research has shown triclosan is a potent endocrine disruptor that interferes with thyroid function. Endocrine-disrupting chemicals can promote a variety of health problems, including obesity, breast, ovarian, prostate and testicular cancer, preterm and low birth weight babies, precocious puberty in girls and undescended testicles in boys.
- Triclosan is banned from soaps, but it's still found in many products from soap products in 2016 due to "suspected human health risks," but it's still found in many products, including toothpaste and hand sanitizers. Triclosan also makes its way into our food supply; it's routinely found in lakes, rivers, streams, wastewater, irrigation water and biosolids applied to fields as fertilizer.
- QACs are found in cleaning products, hand sanitizers, personal care products, many kinds of wipes (surface, baby, hand and disinfecting wipes) and even endoscope disinfectants.
- Adverse health effects of QACs include allergic contact dermatitis, asthma and chronic obstructive pulmonary disease (COPD), decreased cardiovascular and developmental toxicity, disruption of metabolism and an increased risk of antimicrobial-resistant infections.

Washing your hands is at the top of the list for effective prevention of contagious illnesses and infections, but many still make the mistake of assuming you have to use antibacterial soap to get the job done right.

The same goes for other household cleaning. Routinely disinfecting your body and surroundings may actually cause more harm than good in the long run.

Not only do they promote the development of drug-resistant bacteria, but antibacterial compounds such as triclosan and QACs or "quats" have also been linked to a number of harmful health effects.

"The Wuhan Cover-Up" by Robert F. Kennedy Jr

Adverse health effects of Triclosan

Starting with triclosan, research shows that it's a potent endocrine disruptor that interferes with thyroid function.

Hormone-disrupting chemicals are a serious concern, as they can promote a wide variety of health problems, including obesity, breast, ovarian, prostate and testicular cancer, preterm and low birth weight babies, precocious puberty in girls and undescended testicles in boys.

Triclosan also has adverse effects on cellular function, molecular pathways and mitochondrial function, all of which are described in a 2018 paper.

According to that report, an estimated 75% of the U.S. population is exposed to triclosan via consumer goods and personal care products.

The FDA banned triclosan from soap products in 2016 due to suspected health risks, but it's still found in many toothpastes, mouthwashes and hand sanitizers.

It also makes its way into our food supply, as it's routinely found in lakes, rivers, streams, wastewater, irrigation water and biosolids applied to fields as fertilizer.

As reported in this 2018 study, triclosan:

- Is readily absorbed into human skin and oral mucosa and found in various human tissues and fluids.
- Has cytotoxic effects and is associated with cancer development, especially liver cancer.
- Is proinflammatory and enhances the production of reactive oxygen species, or ROS.
- Decreases cardiovascular and skeletal muscle function due to its effects on calcium signaling in muscle cells.
- Is correlated with reproductive and developmental defects, and has been linked to higher rates of miscarriage — a particularly serious concern, considering traces of triclosan have been found in 100% of all urine samples collected from pregnant women and 51% of cord blood samples.
- Is associated with an elevated risk of allergies, asthma and liver dysfunction, especially in children under 18.
- Promotes the proliferation of antibiotic-resistant pathogens.

'Quats' — another harmful class of antimicrobials

The proliferation of QACs or "quats" is also raising concern. As reported in a 2023 review published in Environmental Science & Technology:

> "Quaternary ammonium compounds (QACs) also referred to as quats) comprise hundreds of chemicals and mixtures. QACs serve many different functions, primarily as antimicrobials, surfactants, preservatives, antistatic and softening agents, and dispersants.
>
> "They are often found in cleaning products, hand sanitizers, personal care products, many kinds of wipes (surface, baby, hand, and disinfecting wipes), and even endoscope pesticidal products.
>
> ...
>
> "Adverse ecological effects include acute and chronic toxicity to susceptible aquatic organisms, with concentrations of some QACs approaching levels of concern.
>
> "Suspected or known adverse health outcomes include dermal and respiratory effects, developmental and reproductive toxicity, disruption of metabolic function such as lipid homeostasis, and impairment of mitochondrial function. QACs' role in antimicrobial resistance has also been demonstrated. ...
>
> "Large-scale flapping and spraying of products containing QACs as a COVID-19 control measure, during the World Health Organization and US Centers for Disease Control and Prevention discouraging these practices as ineffective and potentially harmful.
>
> "Additionally, use of certain QACs has increased in recent years as they are frequent replacements for the 10 active ingredients, including triclosan and triclocarban, banned from use in over-the-counter hand and body washes. ...
>
> "While QACs kill or inactivate a number of different microorganisms in controlled laboratory settings, which is often presumed to be beneficial real-world practice is an impression of cleanliness, evidence of QAC effectiveness in reducing transmission of infectious disease in real-world settings and applications, such as the field of healthcare, is limited.
>
> "In addition, no high-quality evidence shows that antimicrobials bonded to surfaces reduce healthcare-acquired infections."

While research is limited, what we do have shows quats pose serious risks to the environment, especially marine life.

Disturbingly, these chemicals are flushed down the drain in such quantities that "QAC concentrations in aquatic ecosystems are approaching protective toxicity thresholds."

In humans, post-application exposure accounts for an estimated 90% of exposure, such as touching a counter or door knob after using a QAC-containing disinfectant and then touching your mouth. Quats are also found in household dust and air.

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Health hazards associated with Quats

As detailed in the Environmental Science & Technology review, adverse health effects of QACs include:

- Allergic contact dermatitis.
- Asthma, COPD, pulmonary cell damage and lung inflammation.
- Increased concentrations of inflammatory cytokines.
- Suppressed immune function.
- Reduced fertility in both sexes — In female mice, adverse outcomes include increased time between estrus cycles, reduced ovulation and implantation, and increased postimplantation losses. Male outcomes include decreased sperm concentration and motility.

> *Other animal research has demonstrated that QACs have embryocidal, ocular and gastrointestinal system when administered through the diet — as much as, that a 1975 patent details the use of QACs "for the control of fertility."*

- Impaired embryo development and neural tube defects (regardless of which parent is exposed).
- Developmental disorders resulting from alterations in cholesterol biosynthesis.
- Mitochondrial dysfunction — As noted by the authors of the review:

> "Chemically, most QACs can be classified as lipophilic cations that can accumulate into a negatively charged mitochondrial matrix. Evidence of direct inhibition of mitochondrial oxidative phosphorylation comes from multiple in vitro studies involving several QACs."

- Increased risk of antimicrobial-resistant infections.

Considering the hazards, I strongly recommend ditching all antimicrobial products containing triclosan or QACs. Warm water and mild soap are all you need to scrub germs off your hands.

Even the FDA admits there isn't enough science to show that over-the-counter antibacterial soaps are better at preventing illness than washing with plain soap and water.[1]

The same goes for eliminating harmful microorganisms from household surfaces. Common household items such as hydrogen peroxide, white vinegar and essential oils can actually do the job better than chemicals.

Proper hand washing technique

Hand washing is a simple way to reduce your exposure to potentially disease-causing germs and reduce your chances of getting sick.

While not the only factor, it can drastically reduce the germs that get access to your body, especially when you do it at key times, such as before eating or touching your mouth, eyes and nose, and after using the restroom or visiting public areas.

Hand washing needs to be done correctly, however, to be truly effective for disease control. Simply rinsing your hands with water, or giving a quick scrub with soap, is not enough to remove germs.

So, to make sure you're actually removing the germs when you wash your hands, follow this procedure:

1. Use warm, running water and mild soap.
2. Work up a good lather, all the way up to your wrists, scrubbing for at least 15 or 20 seconds.
3. Make sure you cover all surfaces, including the backs of your hands, wrists, between your fingers and around and below your fingernails.
4. Rinse thoroughly under running water.
5. In public places, use a paper towel to open the door as protection from germs that the handles may harbor.

Keep in mind that your skin is your primary barrier against germs, so obsessive-compulsive washing, especially in the environments that typically exist for most of the time when you're indoors at home, can actually increase your risk of getting sick by drying out your skin.

So keep a balance. Avoid washing your hands as you're urinating, but use soap, as dry, cracked areas are a perfect entryway for germs.

Regular soap is most effective against viruses too

Keep in mind that, like antibiotics, antibacterial soaps only affects bacteria, so antibacterial soaps cannot protect you against viruses.

Even for bacteria, research has demonstrated that antibacterial soap provides no additional benefit over nonantibacterial soap.

As noted in a 2007 systematic review published in the journal Clinical Infectious Diseases:

> "The lack of an additional health benefit associated with the use of triclosan-containing consumer products, in addition to the concern about the development using a potential risk of selecting for drug-resistant, warrants further evaluation by governmental regulators regarding widespread product claims and advertising."

The good news is that regular soap DOES kill viruses. As detailed in a series of Twitter posts by professor Paul Thorstenson — who specializes in biomimetic supramolecular and biophysical chemistry and nanomedicine — soap very effectively kills most viruses, including SARS-CoV-2.

The reason for this is that the weakest link in the virus is its lipid (fatty) bilayer. Soap dissolves this fat membrane, causing the virus to fall apart, thus rendering it harmless.

Not even alcohol is as effective for inactivating viruses, although it may be more practical for using surfaces other than your hands and body.

Soap mechanics 101

Soap molecule is suited for mixing oil and water as it shares the qualities of each.

Soap molecules are amphipathic, meaning they have both polar and nonpolar properties, giving them the ability to dissolve most kinds of molecules.

As explained by Thorstenson, soaps basically dissolves the "glue" that holds the virus together. The alkalinity of soap also creates an electric charge that makes the soap hydrophilic (water-loving).

Hydrogen atoms in water molecules have a slightly positive charge, so when you wet your hands and then use soap, this molecule will readily bond with the water molecule around it. Hence, when you wash your hands under running water, the soap-deconstructed virus is easily washed away.

The New York Times explains the process this way:

> "When you wash your hands with soap and water, you surround any microorganisms on your skin with soap molecules. The hydrophobic tails of the fatty molecules cluster around the virus, causing it to disintegrate, then wedge themselves into the lipid envelopes of certain microbes and viruses, prying them apart.
>
> "They act like crowbars and destabilize the whole system," said Prof. Pall Thordarson, acting head of chemistry at the University of New South Wales. Essential proteins spill from the ruptured membranes into the surrounding water, killing the bacteria and rendering the viruses useless."

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Keeping your home clean, safely

The surfaces of your home can also be kept clean and free of bacteria without the use of harmful chemicals. An all-purpose cleaner that works great for kitchen counters, cutting boards and bathrooms is 3% hydrogen peroxide and vinegar.

Simply put each liquid into a separate spray bottle, then spray the surface with one, followed by the other. It doesn't matter which is used first.

In tests run at Virginia Polytechnic Institute and State University, pairing the two mists (one after the other) killed virtually all Salmonella, Shigella, and E. coli bacteria on heavily contaminated food and surfaces when used in this fashion, making this spray combination more effective at killing these harmful bacteria than chlorine bleach or any commercially available kitchen cleaner.

This combo can also be used to cleanse fresh produce. Do not mix the two in the same sprayer bottle, as the resulting chemical, peracetic acid, has a different purpose.

Other safe substances that can be used to disinfect your home include:

- **Coconut oil**, which has potent disinfectant properties and can be used to disinfect wooden cutting boards and other wood surfaces.
- **Sunlight** — Drying your laundry in the sun is one of the best ways to save energy and wind up with fresh, clean-smelling clothes.
- **Oregano oil**, which has been shown to kill bacteria responsible for food poisoning, cold viruses and microbial spores.

  A study in the international journal Food Science and Technology formerly known as Lebensmittel-Wissenschaft & Technologie — found oregano oil performed more effectively than other essential oils tested as a means of removing bacteria from stainless steel surfaces used in the food industry. And, unlike sodium hypochlorite, oregano oil does not cause corrosive damage to surfaces.

Homemade house cleaning products

Including oregano essential oil in your homemade cleaning products is a simple, easy and effective means of killing pathogens. Below are two recipes for cleaning products you can make at home with ingredients you may already have in your kitchen cabinet.

For an all-purpose cleaner, mix 1 cup of water, 2 teaspoons of castile soap and 20 drops of oregano essential oil in a spray bottle, preferably made of glass. Shake well before each use and store in a cool, dark place, as essential oils oxidize when exposed to heat, sunlight and oxygen.

Alternatively, combine four drops of oregano oil with 10 drops of lemon oil and a quarter-cup of white vinegar. Add this mixture to a bucket of warm water and use it to wipe and clean surfaces.

Again, eliminating "antibacterial" products from your home is a simple way to protect your family's health by reducing your toxic burden. And since there's no effectiveness advantage to these products, the only thing you're giving up are the risks associated with them.

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The views and opinions expressed in this article are those of the authors and do not necessarily reflect the views of Children's Health Defense.

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Dr. Joseph Mercola
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Anti-Lied
a day ago

I remember as a kid in a small town in Norway making mudpies in the back yard, wandering through my father's garden and breaking off stalks of rhubarb with our dirty hands and eating that but (cough?) - so last we've good! We climbed the hills and ate berries that weren't washed. We took kids across a wide shallow sea-loaded them or ourselves on a raft and paddled across. We played in the mud and the sand and climbed trees and mountain fallen to clean off sweat. And we were so healthy and strong! Food disinfectants were many years and thousands of miles away. The petrochemical/pharmaceutical industry that is killing us was not on our radar back then. Our parents were not brainwashed by it either.

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Jennifer
a day ago

Makes sense since the cold was spraying & wiping & lathing us to wipe our groomers! How idiotic.

Also refreshing to read a natural alternative to strong chems. I learned this early on during the pandemic. I have a commercial cleaning biz & could not order my usual traditional disinfectants for the clubhouses.

I mixed an empty spray bottle with peroxide & 1/3 drops of tea tree oil & 1/3 drops of eucalyptus oil. It smelled wonderful & did the job since I am allergic to bleach. It especially was nice when people were stealing bottles at our pool because they didn't smell.

Reply | Share

jane
a day ago

Many vaccinations have been used in schools for years and were mandated during COVID. In addition, classrooms were sprayed down nightly. Containing QACs, these were always on my mind. Interesting that the TDS patient was hospitalized.

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Cathy Logan
2 days ago

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